

BLODGETT (A.N.)

HALLUX VALGUS,

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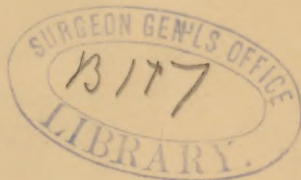
REPORT OF TWO SUCCESSFUL CASES.

BY

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HALLUX VALGUS,

WITH A REPORT OF TWO SUCCESSFUL CASES.

A GREAT deal of suffering among all classes of people is caused by the continuous and unvarying irritation and pain produced by comparatively trifling causes, which is borne without complaint, either because it seems too insignificant to be considered a disease and to be treated as such, or because there is comparatively little prospect of permanent relief from any treatment which can be employed in the case. No part of the body is more frequently the seat of these affections than the feet and the lower part of the leg, and probably no class of diseases is more rarely brought to the notice of the surgeon for treatment. The excessive degrees of these diseases are sometimes so serious in their character that the patient is brought into a frame of mind to endure any operative interference rather than suffer a continual martyrdom with no prospect of relief. It is one of the diseases of this nature which forms the subject of this paper.

The complaint to which I ask attention consists in the anatomical element of extreme abduction of the great toe, which, instead of forming a continuation of the line of the foot, is turned outward, is rotated upon its axis to a greater or less degree, and, in very marked cases, is found lying either *under* the other toes, or compressed into an irregular, deformed member, and crowded with the other toes, forming a conical projection from the line of the metatarsophalangeal articulation. The other toes are adducted, that is, are inclined toward the middle line

of the body, and therefore move in an opposite direction from the great toe. All the toes are therefore brought closely together and crowded one upon another, are altered in shape, and sometimes so constrained in their cramped position that they become anchylosed. The great toe shows a decided tendency to lie *under* the remaining toes, being found in the depression beneath the first phalanx, with the other toes closely folded down over it and turned downward, so that their points and the toe-nails rest upon the bottom of the shoe.

The degree of deformity which is produced by this disease is much greater than would be expected, and the disability which it occasions, both from its mechanical hinderance to locomotion, and from the intense pain with which it is often attended, is surprisingly great.

In connection with the distortion and dislocation of the great toe, there is generally much swelling and protrusion of the tissues about the head of the capitulum metatarsi, which is often the seat of intense suffering from pressure upon the prominent joint, which tends to aggravate the disease, and sometimes induces acute inflammation of the joint itself.

Prof. Hamilton considers the condition of the articulation to be that of subluxation, in which the first phalanx, instead of being simply dislocated outward, has partially rotated, so that its proximal end rests upon the outer surface of the capitulum. He also observes that the articulating surface is prolonged outward to a greater or less extent, to form a joint in the new position of the phalanx, and that the synovial cavity becomes obliterated at its internal border, both of which facts I was able to verify in the case I shall first report.

Here the articulating surface was displaced outward and downward, and was limited to an area of about six mm.

In regard to the causation of the disease in question, there can be no doubt that by far the larger number of cases are produced in a purely mechanical way, by the wearing of ill-fitting shoes. This effect may result from two causes: from shoes which are

too narrow, and also from those which are too short. Of these two elements of causation in this particular disease, it would seem that pressure upon the ends of the toes, principally, of course, upon that of the great toe, would be the most frequent cause of the deformity in question. The great toe would be abducted to a powerful degree, while the other toes would be adducted, though to a much smaller degree. The continued action of a short shoe would serve to increase the displacement, and at length would crowd the great toe beneath the other toes and fold them down upon it, so that the ends of the smaller toes might rest upon the sole of the shoe. This is the condition called "hammer-toes," and is almost always present, to some extent, in cases of abduction of the great toe. Of course, the fashion of wearing high heels, now unfortunately in vogue among the ladies, has a continual tendency to produce or to perpetuate this disease, from the tendency of the foot to slide toward the toe of the shoe; and as if to furnish no chance of possible escape from trouble, many ladies' shoes are made with a so-called "box-toe," which does not yield to the foot, but compresses the toes as in a vise, so that some degree of deformity is nearly always induced by their continuous use.

Another cause which sometimes tends to produce abduction of the toe is any affection of the muscles which would shorten them, or in any way interfere with their functional integrity, thereby rendering them unfitted for their normal office. In some such conditions, abduction is the inevitable and necessary result, and in all there is great probability of its occurrence, as the consequence of an interference with the motor apparatus of a small and distant member, which is exposed to a continual tendency in the direction of the displacement. Of course, the primary disease of the muscles may be due to many causes which may be omitted here, since it is with the mechanical effects that we are now dealing. A third and frequent cause of the disease, is some lesion located in the joint itself, which causes a change in the shape of the capitulum, and often in the head of

the phalanx as well. The articulating surface becomes displaced, so as to present no longer upon the end of the metatarsal bone, but rather upon its outer and inferior aspect, corresponding to which, the toe is swung around as on a pivot, and comes to lie in a direction nearly transverse to the line of the foot.

This condition may be caused by a periostitis, due to pressure of the boot, or to an injury to this region by an accident, and in either case forms a bursa, the so-called *union*, in which there is always swelling and pain in the tissues about the joint, and often a thickening of the bone in the vicinity, sometimes even an osteitis. Chronic arthritis is also a frequent cause of deformity in this joint, from the distortion of the articulating surfaces and thickening of the capsular envelopes which so often accompanies it. When the diseased condition is once established, the motions of the feet in walking, and the weight of the body, tend to perpetuate and increase the deformity. The muscles, when the toe is out of its normal line with the foot, draw upon the toe at an angle, and every contraction of the muscle tends to make this angle greater, thus, of course, increasing the distortion.

The distress occasioned by so painful a disease in a part continually exposed to pressure and weight, and the disability produced by the distortion of a part of the foot so important in locomotion, as well as the unsightly deformity which is produced by the displacement of the toes, all render any measure for the relief of this condition a boon to be eagerly sought for.

Various methods of treatment have been tried with varying degrees of success, but most of these have been discarded as impracticable or useless. Rest in bed will sometimes relieve the inflammation about the head of the bone, but will do nothing toward relieving the deformity, and the first attempt at wearing a shoe provokes the whole trouble anew.

Tenotomy is often resorted to as a means of reducing the deformity, but the conditions of the capitulum and the phalanx are often such as to preclude any result from this means, and at best its effect is only imperfect and transitory.

Recourse is often had to amputation, which certainly relieves the abduction of the toe, but is subject to grave objections from the greater deformity inflicted upon the foot, the unprotected position of the remaining toes, and the disturbance to the equilibrium of the body. The diseased head of the metatarsal bone would necessarily be removed, an osseous structure thus be opened, and a risk of greater or less degree to the life of the patient would thus be incurred.

A few years ago, Prof. Hueter, in his "Clinical Treatise on Diseases of the Joints," discussed the disease of which we have been speaking, and stated that the head of the metatarsal bone had been excised for caries with such success as to recommend the operation, and he advises it also in extreme cases of abduction of the toe from other causes, to which condition he gives the name of "*hallux valgus*." The operation, as Hueter performed it, consisted in an incision upon the inner surface of the toe in the direction of its axis, which is carried to some distance on either side of the joint. The capsule is opened, the ligaments are cut, and a subperiosteal dissection of the head of the metatarsal bone is made, the capitulum is removed by bone-forceps or a saw, the toe is brought into a line with the foot, and the wound is left to heal by granulation (Hueter, p. 341 et seq.).

So far as I know, attention was first called to this method of treatment in America, by a paper, describing the operation and accompanied by a report of eleven cases, which was read before the Buffalo meeting of the American Medical Association, by Prof. Frank H. Hamilton, of New York. The cases, with two exceptions, were simply those of deformity either from mechanical causes or from rheumatic or other diseases. Of these eleven cases, six were operated upon by Prof. Hamilton, and all resulted in cure, with the relief of deformity and restoration of the functions of the foot. Five cases were reported from other surgeons with a flattering result in four cases, and one death. The fatal case was that of a gentleman seventy-five years old, who had had ex-

tensive disease of the joint with caries and suppuration for three years. Esmarch's bandage was applied and the resection was made with a chain-saw. The foot was enveloped in a warm-water compress. Gangrene of the toe, foot, and leg ensued, and the patient died on the eleventh day. The surgeon who operated in this case ascribes the fatal result to the use of the Esmarch bandage, which is thought to have delayed or even suspended the proper nutrition of the part for a time sufficient to destroy the vitality of the tissues, thus inducing gangrene. That this disastrous result sometimes follows the use of the Esmarch bandage in debilitated subjects, there can be no doubt, and it may easily have been the cause of the fatal result in this case. Prof. Hamilton takes great care to secure the most favorable conditions for the healing of the wound by applying no ligatures or sutures after removing the head of the bone, but by simply immersing the foot in a bath of hot water, where it is kept continuously for a period of from five to seven days, when he says "fomentations may be substituted, or the foot may be taken from the bath at night and wrapped in wet lint covered with oil-silk." This treatment could be more easily carried out in a hospital than in private practice, where the appliances for a continuous bath of a certain temperature are not always easily obtained. Prof. Hamilton adds that "nearly but not quite the same immunity to inflammation and other accidents may be obtained by continuous warm-water fomentations, and without the use of the bath at any period." In any case he advises the use of fomentations for two weeks, when they may be replaced by other suitable dressings. The incision was varied in direction by Prof. Hamilton, so as to form a flap $4\frac{1}{2}$ by 2 cm., thus opening the joint more easily and completely than was the case with the straight incision. The operation was thus rendered easier, and the result was equally favorable.

The cases which I present were of the right and left foot respectively of the same person. The patient, a middle-aged lady, had long been confined to her room, and often to her bed, on account of the pain and disability occasioned by the inflamed state

and distorted condition of the heads of the first metatarsal bones. The history was that of a chronic rheumatic arthritis, no doubt aided materially by wearing improperly shaped shoes, though, as is usually the case, the patient denies that the shoes were ever at fault. She was much emaciated from long confinement and suffering, appetite poor, the strength greatly diminished, weight between eighty and ninety pounds. There was a great degree of abduction of both great toes, so that they lay under the bodies of the other toes.

As before stated, there was great pain and almost entire inability to walk; the distal end of the first metatarsal bone was very prominent and knobby, and the articulation between it and the first phalanx was removed from the end of the bone to a point on its outer side. The tissues were stretched over the head of the metatarsal bone; they were red, abraded, and sore. Patient could not wear a shoe, she could scarcely get about the house, and was generally miserable.

Feb. 26th.—Right foot was operated upon by an incision extending 2.5 cm. along the axis of the first metatarsal bone, and connecting with another incision transverse to the course of the bone, thus forming a right-angled flap. This was turned back and the head of the bone exposed. The joint was opened and the head of the bone freed from its attachments to such a degree as to allow a thin steel watchspring saw to be passed behind, when the bone was quickly sawed off at a point about 2 cm. from the distal extremity. There was but little bleeding. The wound was washed in carbolized water, and three silk sutures were applied by which the flap was retained in place. A light carbolized compress and bandage were applied. No ligatures were necessary.

Feb. 28th.—Doing well. No suppuration. All sutures removed to-day. Patient is kept quiet, suffers but little pain, requires no opiate. Appetite good. March 8th.—Eleven days after the operation, wound fully closed. Not much tenderness and no pain. Patient is beginning to walk upon the foot.

March 20th.—Left foot operated upon in the same manner as the right. Wound closed with four sutures. No ligatures were required. The bone was removed a little farther back than in the operation upon the right foot and the wound dressed with carbolized compress and bandage. March 23d.—All sutures removed. No discharge or signs of retained fluid. Pain very slight. No swelling. April 3d.—Fourteen days—wound fully healed. Patient is walking without any pain or discomfort. There are no signs of irritation in the cavity of the joint, and motion of the toe is not accompanied by pain. The patient is much relieved. Can wear a close-fitting boot, which she has not been able to put on for seven years. Goes up and down stairs without difficulty. The appearance of the feet is much improved. The great toe of each foot is brought into proper line and the other toes are resuming their normal shape and position.

In regard to the method of treatment advanced by Prof. Hamilton, it may be proper to notice a few points. He uses no ligatures or sutures, does not make any effort to approximate the edges of the wound, and is quite urgent in his advice that the foot be placed in a bath for some time after the operation, for the purpose of preventing sloughing, etc. He strongly insists that no bandage be used, as being likely to induce gangrene, and his cases are invariably left without trying to unite the lips of the incision, for the reason that such a wound should be left to fill up by granulation. These objections are all, doubtless, well grounded, and in some instances fully applicable, but they would seem to be more or less dependent upon the age and general condition of the individual patient and the condition of his surroundings. They were none of them observed in my cases, and the result was certainly all that could be desired. Union was in both cases entirely by first intention; there was no effusion into the cavity left after removal of the head of the metatarsal bone, and the recovery was very rapid and complete. The only treatment observed other than that mentioned above was rest in bed and a moderate diet.

I do not know why Prof. Hamilton considers it necessary to observe so many details in the performance of this operation and in the subsequent treatment, or rather the subsequent lack of treatment, of the patient. The operation is certainly not more difficult to execute than many other operations upon the extremities, and if the two cases in which I have had opportunity to study it form any indication, the recovery is not subject to more than the average amount of risk and peril. The attempt to follow the explicit directions given by Prof. Hamilton would rob the operation of what, to me, is one of its greatest advantages—its simplicity and consequent ease. To provide the means for constant immersion of an extremity in a bath of a certain temperature, with the observance of other unavoidable conditions, would render the extensive application of this operation outside of large hospitals impossible, and by just so much tend to limit its usefulness; for many, if not most of the sufferers from the disease we are treating, are found in the humbler walks of life. If these inconvenient and costly arrangements can be safely avoided, it certainly is a gain to surgery and to every patient who suffers the operation.

That this may be judiciously advised is proved, I think, by the result of my cases, and I consider that this operation recommends itself in all proper conditions as easy, safe, and satisfactory.

June 16, 1880.—Examination of both feet of this patient to-day shows the great toes in normal line with the foot, not sensitive, with extensive motion, the joints not tender, nor in any way causing her any trouble. The other toes have come into excellent position, and the appearance of the feet is much improved. In fact, both feet are in as good shape and proportion as is found in the majority of so-called healthy feet. Patient is out walking every day, and does a great part of the housework in the family, wearing a close-fitting shoe, and being on her feet several hours each day. Her general health is benefited in almost a similar ratio, and she is loud in her commendation of the operation.

